

ABSTRACT OF THE DISCLOSURE

An alignment apparatus moves an X-Y slider together with X and Y beams. Electromagnetic guides (electromagnetic mechanisms) are interposed between the X-Y slider, the X beam, and the Y beam. The electromagnetic guides include alignment and acceleration electromagnets attached to the X-Y slider, and targets attached to the X and Y beams. The alignment electromagnet is feedback-controlled, whereas the acceleration electromagnet is feedforward-controlled.